

Title (en)
SECONDARY BATTERY

Title (de)
SEKUNDÄRBATTERIE

Title (fr)
BATTERIE SECONDAIRE

Publication
EP 1734600 A4 20070516 (EN)

Application
EP 05709814 A 20050207

Priority
• JP 2005001762 W 20050207
• JP 2004041106 A 20040218

Abstract (en)
[origin: EP1734600A1] A secondary battery includes: a positive electrode; a negative electrode; a porous electron-insulating layer adhered to a surface of at least one selected from the group consisting of the positive electrode and the negative electrode; and an electrolyte. The porous electron-insulating layer comprises a particulate filler and a resin binder, and the particulate filler comprises an indefinite-shape particle comprising a plurality of primary particles that are joined to one another. A neck is preferably formed between the primary particles. Since the porous electron-insulating layer has high porosity, it is possible to obtain a secondary battery that exhibits excellent low-temperature characteristics, which are particularly important in actual use, and that is capable of discharging at a large current.

IPC 8 full level
H01M 4/62 (2006.01); **H01M 2/16** (2006.01); **H01M 4/13** (2010.01); **H01M 10/0525** (2010.01); **H01M 10/36** (2010.01); **H01M 4/36** (2006.01)

CPC (source: EP KR US)
H01M 4/02 (2013.01 - KR); **H01M 4/13** (2013.01 - EP US); **H01M 4/366** (2013.01 - EP US); **H01M 4/62** (2013.01 - EP KR US); **H01M 4/624** (2013.01 - EP US); **H01M 10/05** (2013.01 - KR); **H01M 10/0525** (2013.01 - EP US); **H01M 50/446** (2021.01 - EP US); **H01M 50/46** (2021.01 - EP US); **H01M 2004/021** (2013.01 - EP US); **Y02E 60/10** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP)

Citation (search report)
• [X] US 5882721 A 19990316 - DELNICK FRANK M [US]
• [A] US 2003170536 A1 20030911 - AIHARA SHIGERU [JP], et al
• [PX] US 2004166407 A1 20040826 - NAKAJIMA JUNJI [JP], et al
• [PX] WO 2005011043 A1 20050203 - MATSUSHITA ELECTRIC IND CO LTD [JP], et al & US 2006216608 A1 20060928 - OHATA TSUMORU [JP], et al
• See references of WO 2005078828A1

Cited by
US2015004465A1; US9577237B2; US7875388B2

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 1734600 A1 20061220; EP 1734600 A4 20070516; EP 1734600 B1 20081126; CN 100544078 C 20090923; CN 1788371 A 20060614; DE 602005011264 D1 20090108; JP 5095103 B2 20121212; JP WO2005078828 A1 20071018; KR 100767560 B1 20071017; KR 20060036406 A 20060428; US 2007042270 A1 20070222; US 2008274399 A1 20081106; US 8163424 B2 20120424; US 8163425 B2 20120424; WO 2005078828 A1 20050825

DOCDB simple family (application)
EP 05709814 A 20050207; CN 200580000398 A 20050207; DE 602005011264 T 20050207; JP 2005001762 W 20050207; JP 2005517933 A 20050207; KR 20057025256 A 20051229; US 21350408 A 20080620; US 55565705 A 20050207